

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Investigation on the Commission's own Motion into the Operations and Practices of Pacific Gas and Electric Company to Determine Violations of Public Utilities Code Section 451, General Order 112, and Other Applicable Standards, Laws, Rules and Regulations in Connection with the San Bruno Explosion and Fire on September 9, 2010.

FILED
PUBLIC UTILITIES COMMISSION
JANUARY 12, 2012
SAN FRANCISCO OFFICE
I.12-01-007

ORDER INSTITUTING INVESTIGATION**I. INTRODUCTION**

At 6:11pm on September 9, 2010, a 30-inch diameter natural gas transmission pipeline, owned and operated by Pacific Gas and Electric Company (PG&E) ruptured in a residential neighborhood in San Bruno, California. Gas escaping from the rupture ignited, causing an intense fire which killed eight people, injured 58 others, destroyed 38 homes, and damaged another 70 homes. We are deeply saddened by this incident and troubled by the apparent causes.

The National Transportation Safety Board (NTSB)¹, the Independent Review Panel (IRP),² and the Commission's Consumer Protection and Safety Division (CPSD) have completed investigations into the causes of the incident. CPSD's investigators arrived at the accident site shortly after the incident occurred, and have

¹ The NTSB's Accident Report of the San Bruno rupture and fire is titled "NTSB/PAR-11/01 PB2011-916501" (NTSB Report) and is available at <http://www.nts.gov/doclib/reports/2011/PAR1101.pdf>.

² Commission Resolution L-403 established an Independent Review Panel to assist in the fact-finding investigation of the San Bruno explosion and the overall safety of PG&E's gas transmission lines. Its final report is available on the CPUC website at: <http://www.cpuc.ca.gov/NR/rdonlyres/85E17CDA->

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cooperated extensively with and assisted the NTSB investigation during the past year. The NTSB Report (issued on August 30, 2011) finds that the pipeline segment that ruptured was not properly manufactured or installed, safety standards were overlooked or ignored, PG&E's inspection and maintenance practices over time were deficient and ineffective, and that PG&E's response to the incident was excessively slow.

The CPSD Report being issued with this Order³ alleges that PG&E violated the California Public Utilities Code, various federal and state pipeline safety regulations, and accepted industry standards. CPSD's investigation alleges that the incident in San Bruno was caused by PG&E's failure to follow accepted industry practice when installing the section of pipe that failed, PG&E's failure to comply with federal pipeline integrity management requirements, PG&E's inadequate record keeping practices, deficiencies in PG&E's data collection and reporting system (known as Supervisory Control and Data Acquisition, or SCADA), inadequate procedures to handle emergencies and abnormal conditions, PG&E's deficient emergency response actions after the incident, and a systemic failure of PG&E's corporate culture that emphasized profits over safety.

The Commission institutes this formal proceeding to evaluate CPSD's Report and determine whether PG&E, and its officers, directors, and managers, violated any provisions of the California Public Utilities Code, Commission General Orders or decisions, or other applicable standards, laws, rules or regulations in connection with the San Bruno fire and explosion on September 9, 2010. This investigation will not be solely limited to the events that took place on September 9, 2010, but shall include all past operations, practices and other events or courses of conduct that could have led to or contributed to the San Bruno explosion and fire. We will specifically consider what

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[7CE2-4D2D-93BA-B95D25CF98B2/0/cpucfinalreport_v2.pdf](http://www.cpuc.ca.gov/CPUCFinalReport_v2.pdf)

³ "CPSD Incident Investigation Report into the September 9, 2010, PG&E Pipeline Rupture in San Bruno, California" (CPSD Report) is released today and will be made an exhibit in this proceeding. (<http://www.cpuc.ca.gov/PUC/sanbrunoreport.htm>)

monetary fines and other remedies are appropriate to ensure that a catastrophe of this type does not occur again.

II. PROCEDURAL HISTORY

We have already taken several actions relating to the San Bruno explosion that are important to note here. We intend to coordinate our efforts in these different areas to ensure the ongoing safety of PG&E's gas pipelines for the public. This proceeding will not limit or inhibit any of the ongoing proceedings described herein.

On September 13, 2010, the Commission's Executive Director ordered PG&E to reduce operating pressure in Line 132 to a level 20% below the pressure at the time of the failure, where it remains today.

On September 23, 2010, we ordered PG&E to "review the classification of its natural gas transmission pipelines and determine if those classifications have changed since the initial designation." (Resolution L-403.)

Resolution L-403 also created the IRP to gather and review facts, and make recommendations to the Commission for the improvement of the safe management of PG&E's natural gas transmission lines. On June 24, 2011, the revised "Report of the Independent Review Panel – San Bruno Explosion" was issued, which made many recommendations to PG&E that have been incorporated into CPSD's Report, as well as recommendations to the CPUC to improve its gas safety regulations and oversight.

On January 3, 2011, the NTSB issued Urgent Safety Recommendations P-10-2 and P-10-3 to PG&E (which we subsequently made mandatory) to determine "the valid maximum allowable operating pressure" for its natural gas transmission lines "in class 3 and class 4 locations that have not had a maximum allowable operating pressure established through prior hydrostatic testing" through a "traceable, verifiable, and complete" search of its "as-built drawings, alignment sheets, and specifications, and all design, construction, inspection, testing, maintenance, and other related records."

The Executive Director, in a letter to PG&E dated January 3, 2011 (the same date as the NTSB's Urgent Safety Recommendations), referred to the NTSB's Safety Recommendations, and ordered PG&E to complete compliance with the

recommendations by February 1, 2011. We ratified the directive contained in Executive Director's letter on January 13, 2011, in Resolution L-410 (which also extended the compliance report filing date to March 15, 2011).

On February 24, 2011, the Commission instituted an investigation⁴ into whether PG&E violated applicable rules or requirements pertaining to safety recordkeeping for its gas service and facilities across its system, including the PG&E San Bruno pipeline.

Also on February 24, 2011, the Commission initiated a statewide rulemaking proceeding⁵ to consider a "new model of natural gas pipeline safety regulation applicable to all California pipelines."

More recently, on November 10, 2011, the Commission instituted an investigation⁶ to determine whether PG&E's natural gas transmission pipeline system was safely operated in areas of greater population density or other areas identified as High Consequence Areas (HCAs), which resulted from PG&E's compliance reports issued in response to Resolution L-403.

III. FACTUAL BACKGROUND

The CPSD Report and the NTSB Report (of which we take official notice herein) provide the following summary factual background. The PG&E transmission pipeline segment that ruptured under the San Bruno, California neighborhood on September 9, 2010, was installed in 1956. (CPSD Report, p.7.) The section of pipeline involved in the incident was Segment 180 of PG&E's Line 132. (*Ibid.*) The segment was constructed of longitudinally seam-welded pipe. When the pipe was installed, various segments, or "pups," of the pipe were joined together with circumferential welds, referred to as "girth" welds. (CPSD Report, p.17.) The San Bruno segment of this

⁴ I.11-02-016.

⁵ R.11-02-019.

⁶ I.11-11-009.

pipeline was located in a neighborhood the U.S. Department of Transportation classifies as “high consequence,” meaning “any area where a potential impact radius of 660 feet would contain more than 20 buildings intended for human occupancy.” (49 C.F.R. Section 192.903, and NTSB January 3, 2010 Safety Recommendation, p. 2, Appendix B).

Segment 180 that ruptured in San Bruno was a 30-inch diameter transmission pipeline. It was used to transport large quantities of gas at high pressure from Milpitas, California, north through the Bay Area Peninsula and to the City of San Francisco. (CPSD Report, p.7.) Line 132 is part of a series of three transmission pipelines that provide 100% of the natural gas consumed by residential, commercial and industrial customers, as well as power plants, in San Francisco and along the Peninsula. Line 132 originates at the terminus of a larger pipeline at Milpitas, at a PG&E owned and operated facility known as the Milpitas Terminal. (*Ibid.*)

The NTSB examination showed that the 27 foot 8 inch segment of pipe that was hurled from the ground by the rupture consisted of four joined “pup” pipes, and one “long joint” pipe, all welded together by circumferential or “girth” welds. The NTSB examination also appears to demonstrate that all components of the 28 foot ruptured pipe were longitudinally welded. (NTSB January 21, 2011 Materials Laboratory Factual Report, p.2, Appendix C.)

During the afternoon of September 9, 2010, PG&E personnel were working on an uninterruptable power supply system at the Milpitas Terminal, about 39.33 miles southeast of the San Bruno rupture site. (CPSD Report, p.8.) The Milpitas Terminal serves as a receiving point for natural gas coming from the northern and southern portion of the state. (*Id.*, p.74.) At 5:21pm, a short circuit occurred in the wiring as the work was being completed, causing pipeline pressure measuring devices to lose power. This in turn caused the pressure regulating valves on Line 132 to move to full open, which caused the pressure to increase to at least 396 psig. (*Id.*, p.95.) According to PG&E’s SCADA system, the highest pressure recorded at an upstream location closest to Segment 180 just prior to the failure was 386 psig. (*Id.*, p.8.) Based on a review of historical pressure data, this was the highest pressure Segment 180 had experienced within the seven years

preceding the rupture. The previous maximum pressure on Segment 180 was 382.98 psig in December 2003. (*Ibid.*)

Both the NTSB Report and the CPSD Report indicate significant deficiencies in PG&E's emergency response to the rupture and explosion. These deficiencies contributed to a delay of 95 minutes in isolating the rupture to stop the flow of gas, along with the lack of either automatic shutoff valves or remote control valves on the line, which contributed to the severity and extent of property damage. (NTSB Report, Executive Summary, p.x.) The local fire department set up an Incident Command within 10 minutes. (NTSB Report, p.13.) More than 900 emergency responders from the city of San Bruno and surrounding jurisdictions executed a coordinated emergency response, which included defensive operations, search and evacuation, and medical operations. (NTSB Report, Executive Summary, p.x.) Once the flow of natural gas was interrupted, firefighting operations continued for 2 days until the fire was extinguished.

IV. JURISDICTION

Under the Federal Pipeline Safety Act, the Pipeline and Hazardous Materials Safety Administration (PHMSA) of the United States Department of Transportation has safety jurisdiction over natural gas transmission pipelines in the United States. (49 U.S.C. § 60101(a)(6)(B).) The federal statute also allows for a delegation of this responsibility to the individual States. In particular, Section 60105(b)(2) provides that a State may be granted safety jurisdiction over its natural gas transmission pipelines if the State requests certification and adopts each safety standard prescribed by the federal government under 49 U.S.C. § 60101 *et seq.*

The Public Utilities Commission also has substantial jurisdiction under state law to regulate the safety of natural gas pipelines in California. The California State Constitution, Article XII, gives the Commission authority over natural gas operators in California. Public Utilities Code Section 701, and Public Utilities Code Section 222 which defines gas corporations, empower the Commission to do "all things...necessary and convenient" in the exercise of its powers and jurisdiction over natural gas operators. Section 768 authorizes the Commission to promote and safeguard the health and safety of

the public by establishing uniform standards for construction and maintenance of utility equipment and plant. Section 451, which has been in effect since 1909, requires all public utilities to provide and maintain “adequate, efficient, just, and reasonable” service and facilities as are necessary for the “safety, health, comfort, and convenience” of its customers and the public.⁷ A violation of the Public Utilities Code or a Commission decision or order is subject to fines of \$500 to \$20,000 for each violation, for each ongoing day, pursuant to Sections 2107⁸ and 2108.

The U.S. Department of Transportation has certified the Commission to enforce standards under the Federal Pipeline Safety Act (49 U.S.C. § 60105(b)(2)). The Commission in this capacity applies the federal pipeline safety regulations contained in 49 Code of Federal Regulations (CFR) Part 192, *et seq.* The Commission adopted General Order (GO) 112-C in 1971, which adopted in their entirety the federal pipeline safety rules in 49 C.F.R. Part 192, also adopted in 1971.

Pursuant to its constitutional and statutory mandate, the Commission created the first version of (GO) 112 in 1960 (effective July 1, 1961) governing natural gas pipeline safety adopting the standards put forth by the American Society of Mechanical Engineers (ASME) that were followed by the industry at that time (ASME B31.1.8, in effect in 1955). General Order 112 has been updated several times – the current version is GO 112-E, last revised in 2008. General Order 112-E was substantially altered in order to automatically incorporate all revisions to the Federal Pipeline Safety Regulations, 49 CFR Parts 190, 191, 192, 193, and 199.

⁷ The California Court of Appeals has upheld the Commission’s authority to find Section 451 violations that are separate and distinct from any other rule or regulation. *PacBell Wireless v. PUC* (2006) 140 Cal.App. 4th 718.

⁸ Section 2107 was originally created in 1915 and was then known as Section 76, with a penalty range of \$500-\$2,000. Section 2107 was increased to \$500-\$20,000 in 1993. SB 879 became effective January 1, 2012, raising the fine amounts to \$500-\$50,000.

V. COMMISSION INVESTIGATION

PG&E is a large combined natural gas and electric utility. PG&E owns and operates major and technically complex facilities that transport large quantities of electricity and gas over significant distances. PG&E also operates electric generating facilities and underground natural gas storage facilities. All of these activities are potentially dangerous to the general public and to PG&E employees. Members of the public as well as PG&E employees are entitled to expect that PG&E will transport and distribute natural gas as safely as reasonably possible. Public Utilities Code Section 451 requires Commission-regulated utilities to operate safely.

Because PG&E is entrusted to promote and protect the safety of its significant and complex engineering operations, the Commission expects PG&E to employ good safety engineering practices in operating and maintaining its potentially dangerous natural gas pipelines. The Commission's expectation applies to design, construction, operations, testing, maintenance, inspection, risk assessment, and pipe replacement.

The Commission and the public have legitimate cause to be concerned about the safety of PG&E's management of its gas transmission system. The NTSB and CPSD have stated quite clearly that they believe PG&E's inactions, omissions, and failures to be at the root cause of the San Bruno incident and its tragic consequences. Both the NTSB Report and the IRP Report identified deficiencies in our regulations and oversight that may have also contributed to the incident.

The NTSB, IRP, and CPSD reports have presented us with sufficient information and good cause to commence a formal investigation, to ascertain whether safety violations have occurred with respect to PG&E before, during and after the San Bruno incident, and if so, the proper remedies for such violations.

We therefore initiate this formal investigation of the September 9, 2010, San Bruno explosion and fire, to determine whether PG&E has violated Section 451 of the California Public Utilities Code, General Order 112, or any other applicable federal or

state statute, law, general order, rule, regulation, industry safety standard, or Commission decision.

The Commission observes that Public Utilities Code Sections 311, 313, and 314, authorize each of the Commissioners, the Executive Director, the Assistant Executive Directors and the Administrative Law Judges to issue subpoenas requiring the attendance of witnesses and production of documents for examinations under oath, even prior to the initiation of formal proceedings. This is similar to the investigatory authority before hearings under Government Code Sections 11180-11191. In this regard, even without the compulsion of a subpoena, the Commission hereby confirms that under Public Utilities Code Sections 313, 314, 314.5, 315, 591, 582, 584, 701, 702, 1794, and 1795, the Commission staff may obtain information from a public utility like PG&E, and that staff is already deemed to have the general investigatory authority of the Commission.

If, after hearings, we find that PG&E's practices and policies contributed towards, or increased the likelihood of, violations of law that adversely affected public safety, the Commission would have an obligation to consider the imposition of statutory penalties pursuant to Sections 2107 and 2108 of the California Public Utilities Code, and other appropriate remedies under the law. The Commission is prepared to impose very significant fines if the evidence adduced at hearing establishes that PG&E's policies and practices contributed to the loss of life, injuries, or loss of property that occurred at San Bruno. We also note that it appears, based on the allegations in the CPSD report, that PG&E's violations of safety law and standards may have occurred over long periods of time. If the Commission finds this allegation supported by the evidence, the Commission will consider ordering daily fines for the full duration of any such violations, even if this encompasses a lengthy period of time.

The Commission intends to hold public hearings to address these matters. The Commission directs PG&E to cooperate fully with staff's inquiries, and to preserve all records as required by prior Commission orders. The Commission also invites and encourages interested parties to actively participate in this proceeding, as it involves

important safety and other policy matters. The record in this proceeding and the Commission's ultimate disposition will benefit from the expertise, participation, and evidence of other parties.

VI. THE SCOPE OF THIS ENFORCEMENT PROCEEDING

This investigation will focus on PG&E's past actions and omissions, to determine whether PG&E has violated laws requiring safe utility gas system practices. The Commission has the broad authority to impose fines and other remedies if such violations are proven.

The Commission understands that CPSD staff's investigation of the San Bruno pipeline rupture, although substantially complete, is still ongoing, and that staff in the course of the investigation may identify additional areas of concern. If staff later believes it has good cause to assert additional violations beyond those described herein and in CPSD's Report, staff may bring the matter to the Commission's attention in this docket, and request that it be included in this investigation, or if a good reason exists for it, by commencement of a separate enforcement proceeding.

In a separate rulemaking (R.11-02-019) the Commission is analyzing a "new model of natural gas pipeline safety regulation applicable to all California pipelines." However, future safety rules are not the focus of this investigation. Rather, this is an enforcement proceeding to ascertain whether safety violations have occurred, and if so to impose fines and remedies.

We emphasize that the Commission's remedial powers are not limited to its authority to impose civil penalties. Pursuant to Public Utilities Code Section 761, if the Commission finds that PG&E's maintenance or operations practices were unsafe, unreasonable, improper, or insufficient, we may consider ordering PG&E to change or improve its maintenance, operations, or construction standards for gas pipelines, in order to ensure system-wide safety and reliability. We place PG&E on notice that the Commission may consider ordering PG&E to implement the recommendations made in CPSD's Report, in order to improve and ensure system-wide safety and reliability.

Rule 1.1 of the Commission's Rules of Practice and Procedure require utilities to provide complete and non-misleading answers to the Commission and its staff. We place PG&E on notice that, should staff raise additional allegations regarding PG&E's cooperation with discovery requests in this proceeding, we will consider those allegations pursuant to Rule 1.1.

The scope of this proceeding will also include PG&E's compliance with the Orders and Resolutions issued by us to PG&E since the date of the San Bruno incident. If Staff discovers any violations or lack of cooperation with our recent decisions and rulings, we expect those allegations to be brought to our attention in this proceeding.

Further, PG&E has committed to reimburse the Commission for its costs incurred in investigating the causes of the San Bruno rupture and for the costs of any other Commission investigation that stems from it.⁹ PG&E will bear this cost out of shareholder profits; the costs will not be borne by PG&E ratepayers, in light of the magnitude of the tragedy that occurred in San Bruno.

Finally, we place PG&E on notice that the Commission will decide in a separate proceeding whether PG&E ratepayers or shareholders, or both, will pay for PG&E testing, pipe replacement, or other costs. Some costs may stem from the San Bruno pipe rupture or from recordkeeping deficiencies, both of which could be significant. We also place PG&E on notice that in the rulemaking the Commission may take note of the record evidence in this investigation.

Therefore, **IT IS ORDERED** that:

1. An investigation is instituted on the Commission's own motion to determine whether Respondent PG&E violated any provision of the Public Utilities Code or our general orders, statutes, resolutions, directives, requirements (including federal gas safety requirements), or applicable industry safety standards in connection with the San Bruno explosion and fire on September 9, 2010. We will also evaluate whether PG&E's actions

⁹ <http://www.cpuc.ca.gov/NR/rdonlyres/17D6C1C6-6704-453D-8C8C-8BA7D1464F9D/0/PGEAgreementCPUC031111.pdf>.

after the incident have comported with Rule 1.1 of the Commission's Rules of Practice and Procedure and the numerous Orders and Resolutions we have issued to PG&E.

2. PG&E is named as Respondent to this investigation.
3. CPSD is hereby named as a party to this proceeding.
4. PG&E is hereby given notice that fines may be imposed in this matter pursuant to Public Utilities Code Sections 2107 and 2108.
5. PG&E is hereby given notice that the Commission may order the implementation of operational and policy measures designed to prevent future gas hazards to safety pursuant to Public Utilities Code Section 761.
6. Pursuant to Rule 7.1(c) of the Commission's Rules of Practice and Procedure, this proceeding is categorized as adjudicatory. *Ex Parte* communications are prohibited. The categorization of this Order is appealable under Rule 7.6.
7. Pursuant to Rule 7.3, this Order constitutes a preliminary scoping memo. The issues of this proceeding are framed in the above order. These issues will be heard in this proceeding without prejudice to any related proceedings.
8. A prehearing conference shall be convened before an Administrative Law Judge for the purpose of establishing a schedule in this matter including the date, time, and location of an evidentiary hearing, and for good cause shown the ALJ and/or Assigned Commissioner may extend the deadlines specified herein, for any particular responses required.
9. To facilitate the completion of this investigation, and consistent with the provisions of P.U. Code Section 314, staff shall continue discovery and continue to investigate the operations of Respondents. Any additional information that Staff wishes to introduce shall be provided to the Respondents in advance of any hearings in accordance with the schedule directed by the assigned Administrative Law Judge. PG&E shall cooperate fully with staff's inquiries and preserve all records as required by prior Commission orders. Staff need only respond to discovery requests after completion of its direct testimony to allow staff to complete its investigation. Such requests shall be

limited to Staff's investigation of the Respondents and Staff's prepared testimony offered in this proceeding.

10. Pursuant to Rule 13.9 of the Commission's Rules of Practice and Procedure, we take official notice of the NTSB Report issued August 30, 2011, entitled "NTSB/PAR-11/01 PB2011-916501". A copy will be made an exhibit in this proceeding.

11. Pursuant to Rule 13.9 of the Commission's Rules of Practice and Procedure, we take official notice of the IRP Report issued June 24, 2011, entitled "Report of the Independent Review Panel – San Bruno Explosion". A copy will be made an exhibit in this proceeding.

12. A copy of CPSD's Report is issued today herewith, entitled "CPSD Incident Investigation Report into the September 9, 2010, PG&E Pipeline Rupture in San Bruno, California", and will be made an exhibit in this proceeding.

13. We expect Staff to bring additional evidence discovered in the course of its ongoing investigation of any new alleged violations by Respondents to our attention. Staff may propose to amend the OII to add additional allegations or to raise additional charges. Any such proposal shall be presented to the ALJ in the form of a motion to amend the OII and shall be supported by a Staff report supporting the proposed amendments.

14. The Executive Director shall cause a copy of this Order to be served by certified mail on Respondent Pacific Gas and Electric Company:

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Attention: Agent for Service of
Process

This order is effective today.

Dated January 12, 2012, at San Francisco, California.

MICHAEL R. PEEVEY
President
TIMOTHY ALAN SIMON
MICHEL PETER FLORIO
CATHERINE J.K. SANDOVAL
MARK J. FERRON
Commissioners

[CPSD Staff Report on San Bruno Explosion OII](#)